

Spin-top-like encrustation of suprapubic cystostomy catheter: when proper counselling is all that it takes!

Ashish Sharma,¹ Samarth Agarwal,¹ Deepanshu Sharma,² Abhinav Veerwal³

¹Department of Urology, King George's Medical University, Lucknow, Uttar-Pradesh, India

²King George's Medical University, Lucknow, Uttar-Pradesh, India

³BJ Medical College, Ahmedabad, Gujarat, India

Correspondence to
Dr Samarth Agarwal,
rebellite@gmail.com

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DESCRIPTION

A 25-year-old man from a rural background and suffering from psychiatric illness had complaints of acute urinary retention 1 year ago for which trocar-guided suprapubic cystostomy (SPC) Foley catheter placement was done elsewhere after failed attempt of per-urethral catheterisation.

There was no history of haematuria, lithuria, catheterisation and endourological intervention in the past. On further eliciting the history, there was a retrograde urethrogram film taken 1 year back which revealed a short segment (1.0 cm) bulbar urethral stricture. He had undergone optical internal urethrotomy with Foley catheter placement (14F) under regional anaesthesia for his urethral stricture. Per-urethral catheter was removed after 7 days and he voided well with good urinary stream. He was sent back home and instructed to follow-up after 3 days for removal of SPC catheter and need of de-clamping SPC catheter in case of urinary retention again.

However, a thorough counselling about catheter's care and related complications was not done by concerned surgeon and he was lost to follow-up.



Figure 2 Encrusted suprapubic catheter balloon measuring 6×4 cm and weighting 250 g.

He now presented to us after 1 year with retained SPC with complaints of suprapubic discomfort, pyuria and fever with chills and rigour. When confronted about the presence of retained SPC catheter, he defended that since he was voiding well, he did not deem it necessary to be removed and neither was he explained the long-term consequences of a retained catheter.

Complete hemogram showed elevated leucocyte count of $18 \times 10^9/L$ cells/mm³ and normal renal function test. Urine culture revealed *E. coli* growth for which appropriate antibiotics were started.

Attempts at manual removal of SPC catheter by deflating the bulb proved unsuccessful.

Imaging was ordered and X-ray KUB (kidney ureter bladder) was performed, which revealed huge encrustation around balloon of suprapubic Foley catheter like a spin top as shown in figure 1.

Ultrasound KUB revealed a large hyperechoic shadow in the urinary bladder around the balloon of SPC Foley catheter with absence of bilateral hydronephrosis. After proper counselling and consent, he underwent suprapubic cystolithotomy with removal of large encrusted Foley catheter like a 'spin top' measuring 6×4 cm in size and weighing 250 g as shown in figure 2.

At 6 months' follow-up, he was voiding well with healed suprapubic tract and without any urological complaints.

Suprapubic catheterisation is a commonly used alternative procedure to per-urethral catheterisation for short-term or long-term urinary drainage.¹

Complication of prolonged indwelling urinary catheter may include urinary tract infections, catheter blockage, encrustations, pericatheter leakage, retained catheter and bladder spasms.^{1,2} Encrustations of urinary catheter are classified as intraluminal



Figure 1 X-ray (kidney ureter bladder) showing huge 'spin-top'-like encrustation around balloon of suprapubic Foley catheter.



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or extraluminal. It can impede deflation of the balloon and therefore cause a retained catheter. There are very few reported cases in literature of massive encrustation of retained Foley balloon.

The management options of the encrustations include extracorporeal shock wave lithotripsy, laser or pneumatic lithotripsy and cystolithotomy.^{3 4}

In our case, we did not attempt extracorporeal shock wave lithotripsy, laser or pneumatic lithotripsy because the stone was large, hard and was associated with urethral stricture.

Learning points

- ▶ Indwelling urinary catheters should be avoided for longer duration. Prolonged indwelling urinary catheter may lead to infections, encrustations, bladder spasm, pericatheter leak, suprapubic vesicocutaneous fistula and retained catheter.
- ▶ If placed for a longer duration, proper follow-up is needed in such patients. Both short-term and long-term complications need to be addressed.
- ▶ Patient who are illiterate, come from a rural background or suffer from psychiatric illness are an important group who are quite incapacitated to take care of themselves. This invariably leads them getting neglected and causes their healthcare to be put under jeopardy. Hence, in such cases, it is of paramount importance to counsel the patient/attendants regarding need for regular catheter change at 3–4 weekly intervals as it averts most of the catheter-related complications.
- ▶ Catheter-induced huge encrustation may be managed with extracorporeal or intracorporeal lithotripsy and cystolithotomy.

Whenever possible, indwelling urinary catheter should be avoided for long duration. Patients on SPC should be counselled properly about procedures undertaken, catheter care and related complications including bacteriuria, encrustations, leak and catheter retention. Most important is the need for regular catheter change at 3–4 weekly intervals, which averts most of these complications from taking place. This is particularly important for urological patients of urethral strictures and neurogenic bladder where catheters are usually placed for long periods.

Good catheter hygiene, sterile continuous closed drainage systems, and cleaning of catheter surface with soap and water are also necessary to minimise catheter-related complications including encrustations. Periodic balloon deflation and re-inflation to break overlying encrustations is advisable for prolonged indwelling catheter.^{2–4}

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REFERENCES

- 1 Robinson J. Suprapubic catheterization: challenges in changing catheters. *Br J Community Nurs* 2005;10:461–4.
- 2 Getliffe K. How to manage encrustation and blockage of Foley catheters. *Nurs Times* 2003;99:59–61.
- 3 Canby-Hagino ED, Caballero RD, Harmon WJ. Intraluminal pneumatic lithotripsy for the removal of encrusted urinary catheters. *J Urol* 1999;162:2058–60.
- 4 Kojima Y, Yoshimura M, Hayashi Y, et al. Extracorporeal shock wave lithotripsy for vesical lithiasis. *Urol Int* 1998;61:35–8.

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